

## Matrices

There are a couple of equivalent ways to show matrices. Choose whichever you prefer, but please be consistent.

The `amsmath` package defines the `matrix` environment and its friends:

$$\begin{array}{cc} a & b \\ c & d \end{array} \quad \begin{pmatrix} a & b \\ c & d \end{pmatrix} \quad \begin{cases} a & b \\ c & d \end{cases} \quad \begin{bmatrix} a & b \\ c & d \end{bmatrix} \quad \begin{vmatrix} a & b \\ c & d \end{vmatrix} \quad \left\| \begin{array}{cc} a & b \\ c & d \end{array} \right\|$$

The `memoir` class defines the `array`<sup>1</sup> environment:

$$\begin{array}{cc} a & b \\ c & d \end{array} \quad \begin{pmatrix} a & b \\ c & d \end{pmatrix} \quad \begin{vmatrix} a & b \\ c & d \end{vmatrix} \quad \begin{cases} a & b \\ c & d \end{cases}$$

In both cases, the various enclosed matrices or arrays are simply shorthand ways of wrapping the naked environment with `\left(...\right)` (or whatever delimiter) pairs. The `array` environment is more flexible because it supports the same column formatting arguments as the `tabular` environment.

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<sup>1</sup>Also see the `array` package if you're not using `memoir`